



Erie County Health Department
Vector Surveillance & Control Field Laboratory
Buffalo, New York



2005 - 2010 Lyme Disease Survey & Report

5/ 2011

Evidence continues to suggest humans and dogs can acquire Lyme disease locally in Erie County, NY.

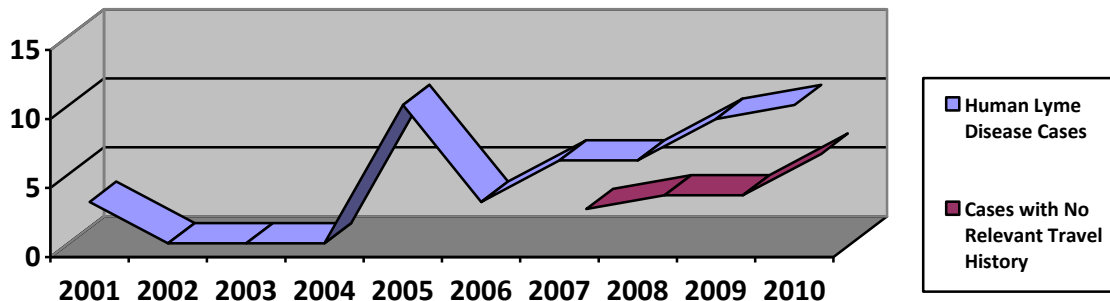
Lyme disease is the most prevalent arthropod-borne disease in New York State, and has been endemic in the lower Hudson Valley and Long Island since at least the 1980s. Evidence suggests that Lyme disease continues to expand into the Western Region of the State, including Erie County.

Lyme disease is transmitted by *Ixodes scapularis*, commonly known as the Black-Legged tick or Deer tick. The causative agent is the spirochete *Borrelia burgdorferii* and is transmitted through the bite of an infected tick.

Number of Human Lyme Disease Cases Confirmed by the NYSDOH in Erie County									
2010	2009	2008	2007	2006	2005	2004	2003	2002	2001
11 (6)	10 (3)	7 (3)	7 (2)	4	11	1	1	1	4

() Cases reporting no relevant travel history outside Western New York. Epidemiology started reporting travel history in 2007.

Human Lyme Disease Cases In Erie County, NY



14 out of 35 human cases from 2007 – 2010 reported no relevant travel history outside of Western, NY

The Erie County Health Department Vector Field Laboratory has provided a regional tick identification service since 2001. The ability to identify ticks and determine the degree of engorgement in a timely manner can be a valuable tool in early diagnosis and treatment of Lyme disease.



Ticks Identified in Erie County*			
Year	Total Ticks Identified	<i>Ixodes scapularis</i>	% <i>Ixodes scapularis</i>
2010	263	100	38.1%
2009	323	154	47.7%
2008	265	92	34.7%
2007	184	62	33.7%
2006	164	32	19.5%
2005	76	21	27.6%
2004	49	8	16.3%
2003	84	33	39.3%
2002	103	16	15.5%
2001	49	9	18.4%
Total	1560	527	33.8%

*Note: Ticks were identified by the Erie County Vector Field Laboratory, NYSDOH Western Regional Entomologist and the NYSDOH Wadsworth Center Biggs Laboratory.



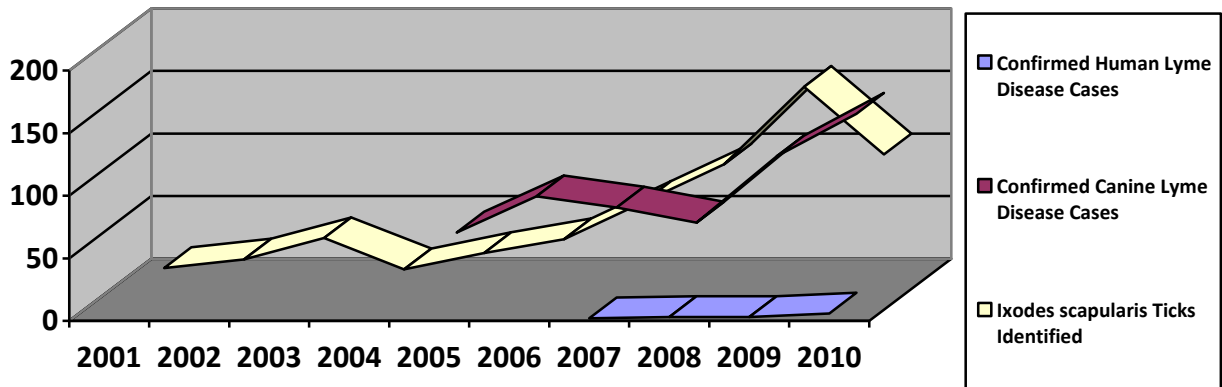
With respect to Lyme disease, dogs may be considered sentinel animals because they are at greater risk of tick infestation than humans. They are compliant and easily sampled, and have a pronounced antibody response to the spirochete infectious agent. Moreover, since dogs frequently develop asymptomatic disease that can lead to lameness, their owners are often motivated to have their animals tested.



Erie County Canine Lyme Disease Survey Results				
Year	Vets Surveyed	Vets That Test for Lyme	Canines Positive ^o	No Travel History
2010	52	51	149	51
2009	56	53	115	52
2008	33	25	62*	11
2007	47	34	74	19
2006	54	35	83	23
2005	66	47	54	22
Total			537	178

^oNote: Laboratory confirmation of Lyme disease relies on indirect methods such as antibody detection. Scientific studies have demonstrated variable levels of sensitivity (30-80%) and specificity (80-90%) associated with the performance of these assays and are dependant upon stage of the infection, presence of cross-reacting antibodies, etc. Therefore, it must be assumed that a laboratory result for the diagnosis is not absolute and performance characteristics of the assay must be considered. Additionally, the diagnosis of the disease cannot rely on the laboratory result alone, but must incorporate clinical recognition, history, and other pertinent information. As of 2009 some vets are using the Idexx 40X or 3dx snap Elisa test in house.

*in addition there was one positive cat in 2008.



Discussion:

Evidence continues to suggest Lyme disease can be locally acquired by humans and dogs in Erie County. Lyme disease should be considered a Public Health threat in Erie County.

- From 2007 to 2010 14 of the 35 confirmed human cases of Lyme disease reported no relevant travel history outside of Western, NY.
- A large and growing number of the ticks identified in Erie County are *Ixodes scapularis* (Blacklegged deer tick), the vector of Lyme disease.
- 537 confirmed canine Lyme disease cases have occurred in Erie County over the last five years. 178 of those cases had no relevant travel history.

In 2008 the “Rabies, Disease & Vector Control Program” of the ECHD began an *Ixodes scapularis* tick capture and testing project in cooperation with the NYSDOH Laboratory. When completed the project should determine the prevalence of Lyme disease in *Ixodes scapularis* ticks in Erie County.



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